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TWO NEW SPECIES OF ELEUTHERODACTYLUS
FROM COLOMBIA.

BY ALEXANDER G. RUTHVEN.

The collections made in the Santa Marta Mountains, Colombia, for the Museum of Zoology, by the Bryant Walker Expedition (1913) and by M. A. Carriker (1914), contain a number of new species of *Eleutherodactylus*, two of which are described in this paper.

Eleutherodactylus sanctae-martae, new species.

Diagnosis: Size moderate; head broad, as broad as long; nostril much nearer tip of snout than eye; eye large, the diameter of the orbit a little greater than the distance between orbit and nostril; snout rounded with distinct canthus rostralis, the length a little less than half the length of the head. Tongue heart-shaped, emarginate behind; vomerine teeth in two groups well behind the choanae. Tympanum distinct, rather small,

its greatest diameter contained in the length of the snout about 3.5 times. Toes free, well developed; the hind limb being carried forward along the body the tibio-tarsal articulation reaches the anterior margin of the orbit; disks well developed, the disk of the third finger larger than the ear, about three sevenths of diameter of eye. Skin of dorsal surface finely granular with a few enlarged tubercles and a distinct glandular fold above each ear; belly coarsely granular; a strong fold across chest.

Habitat: Santa Marta Mountains, Colombia.

Type Specimen: Cat. No. 48605, Museum of Zoology, University of Michigan; San Lorenzo (5,000 ft.), Santa Marta Mountains, Colombia; July 16, 1913; Alexander G. Ruthven, collector.

Description of Type Specimen: Head broad, as broad as long, its length contained in the total length 2.9 times; snout rounded, its length a little less than one half the length of the head; canthus rostralis distinct; eye large, its diameter a little greater than the distance between the eye and nostril and 3.2 times the diameter of ear. Tympanum distinct, small, the diameter contained in the length of the snout 3.6 times. Tongue heart-shaped, emarginate behind; vomerine teeth in two groups well behind the choanae. Fingers and toes well developed, with large digital expansions, the disk of the third finger nearly 1.3 times greatest diameter of the ear, its width contained in the diameter of the eye about 2.44 times. First finger conspicuously shorter than second; the hind limb being carried forward along the body the tibio-tarsal articulation reaches the front of the orbit; a large oval inner and a small conical outer metatarsal tubercle. Skin of dorsal surface finely granular, with a few tubercles, indications of narrow glandular folds on the sides, and a strong fold above each ear;

belly coarsely granular; a strong fold across the chest. Above brown with a dark interocular line, a small black spot on each shoulder, and a faint dark rhomboidal marking with anterior extensions on the sacral region; limbs cross-banded; posterior side of the thigh brown spotted with white; belly white with brown spots; chin and throat white very densely powdered with brown.

Total length, 36.75 mm.; length and width of head, 14 mm.; length of snout, 6.5 mm.; diameter of ear, 1.75 mm.; hind limb to tip of longest toe, 57 mm.; hind foot, 26.5 mm.; front leg to tip of longest finger, 25 mm.

Remarks: The species is represented by two specimens, one of which has been deposited in the British Museum (Natural History). The latter was taken at an altitude of 6,500 feet on San Lorenzo.

***Eleutherodactylus megalops*, new species.**

Diagnosis: Size small; head broad, nearly as broad, or a little broader than the body; the width equal to or a little less than the length to the posterior margin of the ear; nostril much nearer to tip of snout than eye; eye large, the diameter of orbit equal to or a little greater than its distance from nostril; snout rounded, with weak or moderately distinct canthus rostralis; its length contained in the width of the head 1.5 to 2.3 times. Tongue oval, entire; vomerine teeth in two groups behind the choanae. Tympanum distinct, its greatest diameter contained in the length of the snout 2.2 to 3.5 times. Toes free; the hind limb being carried forward along the body the tibio-tarsal articulation reaches the anterior border of the orbit, the nostril or some point between; digital expansions moderate, occasionally as large but generally smaller than tympanum. Skin above rough with many small

tubercles and more or less numerous large ones, the latter sometimes without definite arrangement, but most frequently some of the dorsal ones fused to form short irregular glandular ridges, the most constant of which are two curved ones over the shoulders and one over the ear; the dorsal ridges sometimes connected to form two linear ridges from eye to lumbar region; belly inconspicuously granular, sometimes almost smooth.

Habitat: Santa Marta Mountains, Colombia.

Type Specimen: Cat. No. 48444, Museum of Zoology, University of Michigan; San Lorenzo (5,000 feet), Santa Marta Mountains, Colombia; July 16, 1913; Alexander G. Ruthven, collector.

Description of Type Specimen: Head broad, its width equal to the length of the head to the posterior border of the ear; length of head contained in total length 2.3 times; snout rounded, its length a little less than half the length of the head; canthus rostralis weak; eye large, its diameter greater than its distance from the nostril, and 2.5 times the diameter of the ear; tympanum distinct. Tongue oval, entire behind; vomerine teeth in two groups behind the choanae. Fingers and toes slender, the first finger a little shorter than second; a large oval inner and a small round outer metatarsal tubercle; the hind limb being carried forward, the tibio-tarsal articulation reaches midway between the orbit and nostril; disks moderate in size, the expansion of the third finger two-thirds of diameter of ear. Dorsal surface rough with many small tubercles and scattered large ones, some of the latter fused to form two short glandular ridges above the shoulders and a ridge above each ear; belly granular. Above brown with a few black spots; a black band from the eye above the ear, and

three from eye to lip; chin and throat brown with white spots; belly white with brown reticulations.

Total length, 24 mm.; length of head, 10.25 mm.; width of head, 10.25 mm.; length of snout, 5 mm.; diameter of ear, 1.5 mm.; hind leg to tip of longest toe, 43 mm.; hind foot, 19 mm.; fore leg, 15 mm.

Notes on Paratypes: The variations in structure in the series of 22 specimens selected as paratypes have been adequately given in the diagnosis. The coloration is rather constant, most of the specimens having a color pattern similar to that of the type. A few specimens have a single dark interocular band, and two have two dark bands separated by a lighter one. A number of specimens have a pale spot between the shoulders, and three have a wide yellow vertebral stripe.

Remarks: Besides the specimens described above there are in the Santa Marta collections a considerable number of specimens which differ from the type and paratypes, but which the writer has been compelled to refer to this species. The variations are in color and in the prominence of the dorsal tubercles and glandular folds. In some specimens the tubercles are mostly small, and the glandular ridges are absent or only present over the ear. In a few the glandular ridges are limited to a very open chevron behind the eyes. In others there are two irregular linear glandular ridges on either side of the vertebral region, and in one specimen there are two straight linear ridges on either side of the back from the orbits. Many specimens are colored like the type, but some are pale (red or green in life) except for a dark patch on the head and shoulders, the patch varying from a uniform to a yellow with dark reddish brown markings. There are specimens apparently intermediate between those described above and the types, but it is possible that another species is represented, so that the

diagnosis has been drawn from those specimens which correspond closely with the type.

The species is not uncommon on San Lorenzo between altitudes of 4,500 and 6,500 feet and was taken as high as 7,500 feet. Fourteen specimens in the collection are from Don Diego on the coast and were taken by M. A. Carriker in January, 1914.

PLATE I.

Figures 1 and 2. *Eleutherodactylus megalops*. The drawings are twice the natural size.

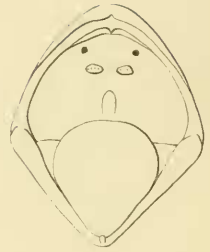
Figures 3 and 4. *Eleutherodactylus sanctae-martae*. The drawings are twice the natural size.

ELEUTHERODACTYLUS MEGALOPS
ELEUTHERODACTYLUS SANCTAE-MARTAE

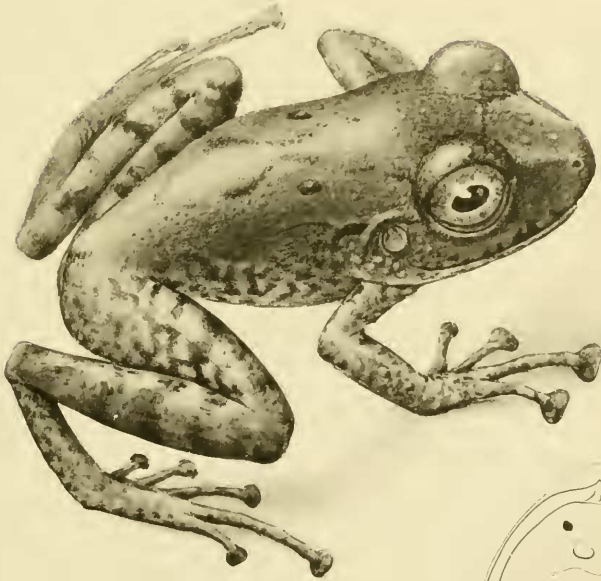
PLATE I



1



2



3



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